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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,746	10/13/2000	Gyoung-Seon Gil	630-1162P	7079

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

LOKE, STEVEN HO YIN

ART UNIT PAPER NUMBER

2811

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/689,746

Applicant(s)

GIL, GYOUNG-SEON

Examiner

Steven Loke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

1. Claims 1 and 5 are objected to because of the following informalities: Claim 1, line 2, the phrase "upper and lower portion" is unclear whether it is being referred to "upper and lower portions"; line 7, the phrase "gate insulating film" is unclear whether it is being referred to "gate insulation film"; lines 6 and 8, the term "sidewall" is unclear whether it is being referred to the sidewall of line 2. Claim 5, line 1, the term "SOG" should be in full form instead of in abbreviation. Appropriate correction is required.

2. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 5, 6, the phrase "lower portion" is unclear whether it is being referred to a lower portion of the active layer; lines 7, 8, the phrase "lower portion" is unclear whether it is being referred to a lower portion of the gate insulation film.

In claim 5, line 1, the phrase "insulation film" is unclear whether it is being referred to the insulating film of claim 1.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kang.

In regards to claim 1, Kang shows all the elements of the claimed invention in fig. 5. It is a thin film transistor, comprises: a stepped substrate [31, 32] provided with a sidewall between upper and lower portions thereof; an active layer [34a, 34b, 34c] formed on the stepped substrate; a gate insulation film (a vertical portion of layer [36] and layer [35a]) formed on a lower portion of the active layer and a sidewall of the active layer contiguous the lower portion of the active layer and the sidewall of the stepped substrate, respectively; an insulating film (a horizontal portion of layer [36]) formed on a lower portion of the gate insulation film [35a] and a sidewall of the gate insulation film (the vertical portion of layer [36]) contiguous the lower portion of the gate insulation film [35a] and the sidewall of the stepped substrate, respectively; a gate electrode [37a] formed on the gate insulation film corresponding to the sidewalls of the substrate and the insulation film (the vertical portion of layer [36]); and impurity regions [34b, 34a] in the active layer corresponding to the upper and lower portions of the substrate.

In regards to claim 4, Kang shows the active layer is a semiconductor film.

In regards to claim 6, Kang shows a portion of the active layer corresponding to the gate electrode is a channel region [34c], and a portion thereof corresponding to the insulation film [35a] is an offset region.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang.

In regards to claim 2, Kang differs from the claimed invention by not showing the stepped substrate is formed of an insulating material. It would have been obvious for the stepped substrate is formed of an insulating material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. In re Leshin, 125 USPQ 416.

In regards to claim 5, Kang differs from the claimed invention by not showing the insulating film is an SOG (spin-on-glass). It would have been obvious for the insulating film is an SOG (spin-on-glass), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. In re Leshin, 125 USPQ 416.

7. Applicant's arguments filed 9/27/02 have been fully considered but they are not persuasive.

It is urged, in page 3 of the remarks, that Kang never discloses the active layer and ~~insulating film are formed contiguous the lower portion and sidewall of the stepped~~ substrate. However, Kang shows the active layer [34] and insulating film (the horizontal

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portion of layer [36]) are formed contiguous the lower portion and sidewall of the stepped substrate.

It is also urged, in page 3 of the remarks, that Kang never discloses an offset region is formed on the whole lower region of the sidewall and substrate corresponding to the insulating layer as a single region. Since the claimed invention never discloses an offset region is formed on the whole lower region of the sidewall and substrate corresponding to the insulating layer as a single region, it is not necessary for Kang to show such limitation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (703) 308-4920. The examiner can normally be reached on 7:50 am to 5:20 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

sl  
October 18, 2002

*Steven Loke*